

## **Education of Science during Medieval Bengal: A Historical Perspective**

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### **ABSTRACT**

With the start of the Muslim conquest of Bengal by the Turks in the early 13<sup>th</sup> century, the society had also seen the quick progress of a new educational system. The main aim of education was the removal of illiteracy and advancement of knowledge. But a large number of people treated education as a preparation for service in the state, simultaneously acquiring name, status and reputation, but in sanity circle such an aspect was overlooked, the emphasis was on their moral and material improvement and formation of character. The article deals with the education of science and technology in medieval Bengal. The article explores the nature and scope of education of science and technology in Medieval Bengal.

**KEYWORDS:** *Science and Technology, Education, Literature, Sultanate, Mughal, Medieval Bengal, Natural Science*

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### **INTRODUCTION**

During medieval period, some development was experienced in the field of education of science and technology<sup>1</sup>. As far as available sources of medieval Bengal is concerned, it covers a time period from 1303 to 1757 A.D. Which takes into account the sultanate Bengal and also Subah Bengal<sup>2</sup>. The start of founding of a new rule in Bengal in early 13<sup>th</sup> century by Ikhtiaruddin Muhammad bin Bakhtiyar Khalji who defeated Sena king Laxmana Sena, established an independent Sultanate in Eastern India<sup>3</sup>. The development occurred under both the Sultanate Bengal (1204-1576 A.D.) and the Mughal Bengal in (1576-1757 A.D.). Education made rapid progress both for the Hindu and the Muslim communities during medieval Bengal<sup>4</sup>. The rulers of Medieval Bengal patronized education for male and Zenana. These rulers made all possible arrangements for education in Royal Harem<sup>5</sup>. Sultan Alauddin Husain Shah also patronized and contributed for the development of Bengali literature. The important name of Bengali writers who sat in the court of Husain shah are Maladhar Basu, Bipradasa, Vijay Gupta (Chhota-Vidyapati) and Jasraj Khan<sup>6</sup>.

The reference of Zenana education during medieval Bengal have been greatly depicted by Mukundaram in his book *Kabikankan-chandi*. The reference of the lahana, Khullana and Lilabati have been depicted for their drafting and also reading<sup>7</sup>.

According to Abul Fazl the curriculum at the Madrasah included ethics, arithmetic, agriculture, geometry, astronomy, medicine, and logic, economic, the art of administration, the physical (Tabil), mathematical (Riyazi) and divine science and history. In medieval Bengal, Arabic and Persian educational institution are found is silapur<sup>8</sup>. Bakhtiyar Khalji and Sultan Ghiyassuddin Khalji built up many mosques, Maqtabs and Colleges in different parts of Bengal including Lakhnawati<sup>9</sup>. The remnants of a College (Darasbari) dated to the period of Yusuf Shah had been discovered in village Umarpur. The contribution of Alauddin Hussain Shah is remarkable as he endowed some pieces of lands for the maintenance of the tomb of Saint Qutbul Alam with a College and Hospital<sup>10</sup>. Asadullah Khan, a Zamindar Birbhum have largely endowed Madrassas and dedicated half of the income for the support of education. The

instance of patronization of education is recorded in Riyaz-us-Salatin and Siyar-ul-Mutakherin<sup>11</sup>...

As far as education of Science and Technology is concerned, it covered instructions in Natural and Physical science such as 1.Agriculture<sup>12</sup>. 2. Astronomy. 3. Earth science. 4. Alchemy 5. Physics 6.Medicine 7.Life sciences in 8. Botany and 9.Zoology<sup>13</sup>.

### **Literature Review:**

As far as the historian Ghulam Husain Tabatabai is concerned an importan Persian chronicle, "Siyar al-Mutakhherin" is an important source material which deals with science and technology during Alivardi Khan's time<sup>14</sup>. He referred Astronomy, Mathematics and Medicine in Nawwabs Court<sup>15</sup>. Muhammad Budai Alias Sayyid Mir Alwi is another important writer in sultanate Bengal during the rule of sultan Ala-al-Din Husain Shah's reign 1493-1519 AD. The work entitled "Hedayat al-Rami" provides information about the Military science illustrating in various drawings<sup>16</sup>. The book with the title 'The rise of Islam and the Bengal Frontier 1204-1760 written by R.M Eaton is another important source materials provides information regarding the Science, technology and Medicine (Ayurveda and Unani) in Medieval Bengal<sup>17</sup>. Mirza Nathan his another important Persian work titled 'Baharistan-i-ghaibi' which talks about the science technology and Medicine in Medieval Bengal<sup>18</sup>. S.M. Jaffar's book is another important source with the title 'Education in Muslim India: Being an Inquiry into the states of Education during the Muslim Period of Indian History (1000-1800 A.C.)'Provides information regarding the Muslim education, science and technology in Sultanate and Mughal period. Historian Abul Fazl Allami Ibn Mubark's Ain-i-Akbari provides information on science and technology during sultanate and Mughal Bengal. He referred the, the development of scientific education through different Centres<sup>19</sup>.

### **Objectives of the Study:**

The Major objectives of the Study are

1. To trace out the major development of education specially in the field of education of Science and technology in Medieval Bengal
2. To recognize and examine the various changes that had been found in education and social conditions in sultanate and Mughal Bengal.
3. To evaluate the state of education system during Sultanate Period.
4. To evaluate the state of education system during Mughal Bengal.
5. To compare the role of Husain Shahi Dynasties of Bengal during Sultanate period regarding the educational changes.

### **Methodology of the study:**

The research methodology enables the researcher to organize the research problems and efforts into one cohesive and conceptual product of an idea. Historical research aims to reach the zenith on the truth of the facts. Though within social science research, complete objectivity is not possible. Comparison is a bunch of data that helps the researcher to verify another set of data. To prepare the present articles, descriptive research, historical analytical research, historical method, comparative and summarization Method have been used.

### **Critical Analysis/Discussion/Result and Findings:**

Education is an influential tool for individual and social development<sup>20</sup>. It is difficult to construct a paper on education of science and technology during Medieval Bengal mainly due to scarcity of sources, to trace even in outline, the system of education that flourished in Bengal from the distant past<sup>21</sup>. The sultanate Bengal encouraged the spread of education in academic or elementary to realize their duties<sup>22</sup>. It is to note that, the rulers, the Sufis, Ulamas, the Noble man, chieftains, scholars, philosophers, Islamic theologians and patrons all contributed in this regard. During this period, provisions were made for Vocational, technical and professional education<sup>23</sup>. Ain-i-Akbari states that every boy ought to read books on morals, arithmetic, the notation, peculiar to arithmetic, agriculture, mensuration, geometry, astronomy, physiognomy, household matters, the rules of government, medicine, logic the tabi'I riazi and ilahi sciences, and history<sup>24</sup>. The post of kazis and wazirs required good education<sup>25</sup>.

It is important to note that a large number Maqtab and Madrasas were established for the purpose of education or mainly religious education, but these madrasas also imparted secular and scientific education<sup>26</sup>. As far as available sources are concerned, the two Holy Sufi Saints Shaikh Jalal-al-Din Tabrizi and Shaikh Sharfuddin Abu Tawama at Sonargaon and Dhaka established an educational learning academy which imparted instruction in different branches of Sciences with many diverse subjects such as 1. Agriculture 2<sup>27</sup>. Astronomy 3.Mathematics 4. Geography (Earth sciences) 5 along with Hadith, Tafsir, Fiqh etc. Arabic and Persian Languages were also taught in the Institution<sup>28</sup>. Another important learning centre was known as Majilis (Academy)<sup>29</sup>.

Another important learning centre was established at Sonargaon Dhaka by Shaikh Sharf al-Din Abu Tawama. He came to Delhi from Bokhara during the time of sultan Ghiyath al- Din Balban reign (1266-1286) and he returned to Bengal accompanying his

pupils Sharf al-Din Yahya Maneri from Bihar in 13<sup>th</sup> century<sup>30</sup>. Shaikh Abu Twama is an eminent Islamic scholar, theologian, Scientist and Philosopher of Sultanate Bengal. He was alive in 13<sup>th</sup> century he was learned in Persian and Arabic languages<sup>31</sup>. Abu Twama was an influential person who accomplished in diverse branches of education including Natural Sciences like Chemistry etc. His establishment an academy at Sonargaon which is an excellent learning centre of Higher education<sup>32</sup>. The students learned from Bengal and other parts of world flocked to this Institution to receive higher studies in various branches of learning such as Tafsir, Hadith, Fiqh as well as many diverse subjects such as 1. Chemistry 2.Mathematics 3. Astronomy 4. Physics 5. Medical Science and 6. Languages etc.<sup>33</sup>.

Another important seminary together with a Hospital (Shifa Khana) was established by Hazrat Shaikh Makhdom Ala-al –Haque Lahori Pandawi (R.A) at Pandua which was an important trading and learning centre in Sultanate Bengal<sup>34</sup>. He is an influential Sufi thinker, theologian, Islamic Scholar in sultanate Bengal. He established a Hospital and Madrasah during medieval Bengal<sup>35</sup>. Hazrat Shaikh Makhdom Lahori Pandawi devoted to the promotion of education and cultural pursuits there by establishment seminary which extensively supporting with the boarding-lodging and Hospital facilities and free treatment for the scholars and learners in medieval Bengal<sup>36</sup>. Hazrat Shaikh Makhdom Lahori Pandawi his pass away in 1398 A.D. Makhdom Nur Qutb-al-Alam was an eminent Islamic Scholar, poet, Philosopher, Sufi thinker, Physician in medieval Bengal<sup>37</sup>. He established a Mosque, Sufi Khana, Mitha Talar (Sweet tank) College, Tannur Khana (Kitchen Room) Bhandar Khan (Store Room) Chilla Khana and Hospital during sultanate Bengal<sup>38</sup>.

Ibrahim Qawwam Faruqi's Sharafnama remarks, the "names of some other scholars and poets who flourished about that time"<sup>39</sup>. One of the poets, Amir Zain al-Din Harwi<sup>40</sup>, is called the Poet Laureate, while another scholars, Amir Shiab al-Din Hakim Kirmani, is called 'pride Physician'"<sup>41</sup>.

The other important learning Centre in Mahisantosh was situated in Mahisun in Modern day Rajshahi District of Bangladesh<sup>42</sup>. The learning Centre was continued in 13<sup>th</sup> century<sup>43</sup>. The learning Centre was establishment by Shaikh Taqi al-Din Arabi<sup>44</sup>. The learning centre provided higher education which included several branches of knowledge e.g, Hadith, Fiqh and Tafsir as well as many subjects1. Geography 2.Economics and Language etc.<sup>45</sup>.

## Conclusion:

The study of the education of science and technology experienced development in sultanate and Mughal Bengal (1204-1757). The education system was informal, but the Programme and Syllabus followed in those Institutions testifying that the study was not suitable and limited. W.W. Hunters in 'Indian Mussalmans' referred that the "They possessed a system of education... which was capable of affording a high degree of intellectual training and polish, was founded on principles not wholly unsound, though presented in an antiquated form and was infinitely superior to any other system of education then existing in India, a system which secured to them an intellectual as well as a material supremacy"

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